

Skull resembling that of the young of the larger species, with the tympanic case not produced backwards. The smallest species. *Testudo microphyes* (Gthr.), from Hood's Island.

Part III. will contain the account of the still existing Tortoises of the Mascarenes, and Part IV. that of the extinct species.

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P.S. The author has just received from Professor Huxley the carapace and skeleton of another adult male, which evidently belongs to a fifth species of Galapagos Tortoises. With regard to the form of the carapace, it resembles much that of *T. elephantopus*, the dorsal shell being depressed, broad, with the upper profile nearly horizontal. Striæ distinct, broad. However, the skull differs widely from that of *T. elephantopus*, and has all the characteristics of that of *T. ephippium*, from which it differs in having a circular tympanic opening. The form of the sternum is quite peculiar, the gular portion being much constricted and produced forwards, whilst the opposite end is expanded into the large anal scutes and deeply excised. This species may be named *Testudo vicina*.

MISCELLANEOUS.

On the Annelids of the Gulf of Marseilles. By M. A. F. MARION.

I HAVE the honour to submit to the Academy the principal results of the researches on the Chaetopod annelids of the Gulf of Marseilles, which I made in conjunction with M. Bobretzky, of Kiew, during the winter of 1873-74. We have been able to determine ninety-six species, among which ten appear to us to be entirely new to science; for four of them we shall even have to establish new generic divisions.

Of the eighty-six known species which we have observed, and of which we have completed our study, eighteen exist in the Black Sea, or are represented there by forms which can only be regarded as local varieties or as subspecies of more or less importance. These are:—

Pholoë synophthalmica.	Syllides pulliger.
Eunice vittata.	Eteone picta.
Lysidice ninetta.	Eulalia virens.
Staurocephalus rubrovittatus.	— pallida.
Nereis Dumerilii.	— macroceros.
— cultrifera.	Andouinia filigera.
Syllis gracilis.	Polyopthalmus pictus.
— spongicola.	Aricia (Erstedii).
Trypanosyllis Krohnii.	Saccocirrus papilocereus.

We find also seventeen of our Marseilles species in the lists of *Ann. & Mag. N. Hist. Ser. 4. Vol. xiv.* 22

annelids of the oceanic coasts of France, and eight of these likewise exist in the Black Sea:—

* <i>Staurocephalus rubrovittatus.</i>	* <i>Syllis gracilis.</i>
<i>Eunice Harassii.</i>	— <i>variegata.</i>
<i>Marphysa sanguinea.</i>	<i>Odontosyllis gibba.</i>
* <i>Lysidice ninetta.</i>	* <i>Syllides pulliger.</i>
<i>Onuphis tubicola.</i>	* <i>Sphærosyllis hystrix.</i>
<i>Nematonereis unicornis.</i>	* <i>Eteone picta.</i>
<i>Arabella quadristriata.</i>	<i>Heterocirrus saxicola.</i>
* <i>Nereis cultrifera.</i>	<i>Sabella reniformis.</i>
*— <i>Dumerilii.</i>	

We do not wish, however, to indicate these faunal relations except in a provisional manner; for it is probable that future researches will considerably modify their significance.

The great family Eunicea has furnished us with a new species of *Marphysa* (*M. fallax*), well characterized by the composite setæ with bidentate uncini existing in the inferior bundle, and by the form of the parts of the maxillary apparatus. In its general aspect this *Marphysa* resembles *Lysidice ninetta*.

The Syllidea are excessively abundant and very varied. We have ascertained the existence of a new species of the genus *Anoplosyllis*, very distinct from that of the Bay of Naples by the arrangement of the dorsal appendages, which are articulated from the third setigerous segment. *Syllis torquata*, sp. nov., bears in the anterior region a large transverse blackish band, which is not figured in any annelid of the same group. Lastly, *Eusyllis lamelligera*, sp. nov., and *Autolytus ornatus*, sp. nov., possess still more important peculiarities of structure. It may be remarked that the genus *Eusyllis*, proposed by Malmgren for some worms from Spitzbergen, had not hitherto been indicated in the Mediterranean.

In the family Hesionea I have to cite a very curious undescribed type, *Magolia perarmata*, of which the trunk is armed with two maxillaries and a style, whilst the anterior region of the body presents two antennæ, two palpi, and twelve tentacular cirri. The new genus *Gypsis*, with an unarmed proboscis, appears to be allied to the *Oxydromi*; but this latter group, which is very badly determined, remains still unsettled.

It is undoubtedly near the Hesionea and at the head of the Phyllodocea that we must place the annelid that we name *Lacydonia miranda*, the characters of which may be given as follows:—

Head furnished with four small anterior appendages representing two palpi and two antennæ; buccal ring provided with a single pair of tentacular cirri; dorsal and ventral cirri pinniform: feet of the first three segments setigerous and uniramose; feet of the following segments furnished with a dorsal ramus of simple setæ and a ventral ramus of composite setæ: trunk unarmed, comparatively short, and situated between two very complicated tubular secretory apparatus, no doubt representing the lateral tubes of the *Hydrophani*.

In the Gulf of Marseilles, among the rolled pebbles of the shore of Ratonnean, we have found the interesting *Saccocirrus* of the Black Sea. The sexes are separate; but the reproductive apparatus presents perfectly exceptional peculiarities. In the male the testes

are placed in the anterior region of each segment, starting from the thirteenth or fourteenth setigerous segment. The fecundating elements detach themselves from these glandular bodies, and are received by two vibratile chambers, situated one to the right and the other to the left of the intestine, in the posterior part of the segment and above the transverse septum. A deferent duct forms a continuation of each of these vibratile funnels. This canal pierces the septum and penetrates into the following segment, where it becomes inflated into a seminal vesicle opening at the base of a very protractile conical penis, which projects from the dorsal surface a little beyond the feet. There are consequently two penises for each zoonite, and the organs for conducting the semen are arranged exactly in accordance with the plan of structure of the segmental organs; the deferent ducts are moreover replaced by true segmental organs in the anterior region of the body.

In the females the ovaries occupy the same position as the testes in the males. Beneath them we notice a yellowish sac full of spermatozoids. This organ, a true copulatory pouch, communicates by a vaginal duct with an aperture situated on the ventral surface of the same segment. Hence we find on each female segment two ventral vulvæ corresponding to the two dorsal penises of the males. But we have also distinguished in the females two vibratile ducts situated in the dorsal region, and piercing the septum below the copulatory pouch. These organs, evidently homologous with the deferent ducts, must be regarded as oviducts; but we have been unable to determine exactly the relations of the copulatory pouch with the general cavity. We have also to notice the remarkable degradation of the pedal organs of *Saccocirrus*, which are formed by tubes which can project more or less, or be retracted entirely within the body; in these protractile sheaths there are seven or eight very simple setæ.

The tribe Trichobranchidea of Malmgren is represented in the coralligenous bottoms of the coasts of Provence by a Terebellian very nearly related to the *Trichobranchus* of Spitzbergen, but furnished with eight filiform branchiæ. This worm will become the type of a new division: its first four segments bear a membranous frill covering the ventral surface, and in part passing over to the dorsal region.

Lastly, we have been able to study some *Serpulea*, and chiefly two species of *Apomatus*, the general structure of which greatly resembles that of *Psymmobranchus*. The globular operculum of these sedentary annelids, situated at the apex of a branchial filament still furnished with secondary barbules, is a true operculum in course of differentiation. The setigerous apparatus of these *Apomati* is rather complex, but it exactly corresponds to that of the *Psymmobranchi*. It may be said that the *Apomati* are *Psymmobranchi* of which one of the branchial filaments, deviating from its original functions, becomes an opercular axis, just as the *Filigrane* are *Salmacine* with modified branchial filaments. With regard to the last two genera it is curious to find that all the *Salmacine* are hermaphrodites, while the *Filigrane* seem to be generally unisexual.—*Comptes Rendus*, August 10, 1874, p. 398.